



WPI

Skyburbia

Andrew Davis (RBE), Gregory Tighe (RBE), Carson Wolf (RBE), Ethan Bryand (RBE)
Advisor: Professor Diran Apelian. PLA: Donal Boyd

Abstract:

Suburbia, though attractive, has an utter lack of sustainability. Isolation from urban areas increases cost for transportation and waste management, while single-family dwellings are inefficient in terms of energy and water consumption. The majority of these problems stem from a low population density. Our proposal is to move suburbia into the city in the form of a skyscraper. This will increase population density and make the problems of waste management and energy efficiency much easier to handle. The Skyburbia project is a sustainable step forward that captures the feel of suburbia in a high-rise residential building.

Goals of Skyburbia:

Our goal is to design an alternative to suburbia that minimizes environmental impact through the reduction of energy consumption and waste while still maintaining a strong sense of community.

Selected Bibliography

Green Building: Project Planning & Cost Estimating.. 3rd ed. Hoboken, N.J.: John Wiley and Sons Inc., 2011. Print.

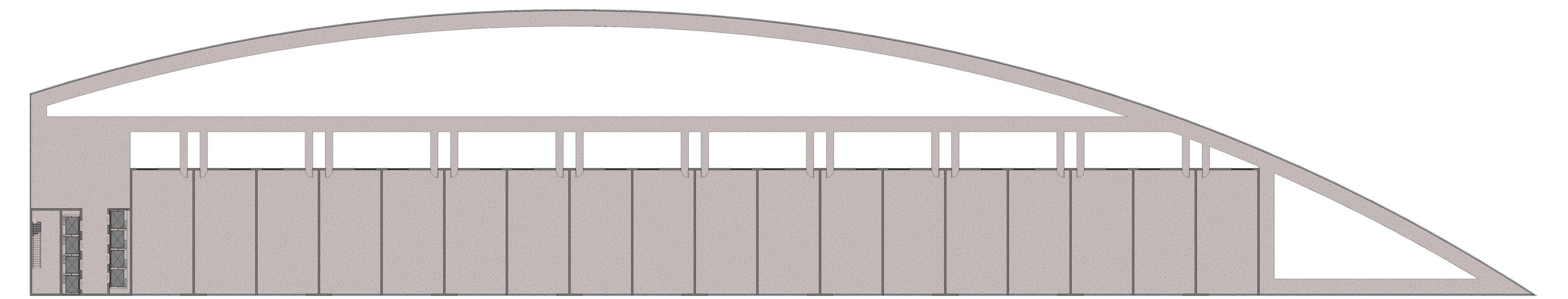
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Methods Behind Skyburbia

- 2 Stage Solar Water Heater System to Maximize Efficiency
- Tankless Water Heaters to Minimize Loss of Heat
- Passive Solar for Emissionless Heating
- Geothermal Heating for On Demand Heat
- Biosand Filters for Sustainable Water Purification
- GEMs to Maximize Energy Production
- Composting for Waste Management

Floor Plan and Interior of Skyburbia



- Solar Water Heaters
- Curve maximizes direct sun
- Overhangs block Summer Sun while Letting Winter Sun in
- Flat Eastern Side allows rapid heating in the morning

